

FIG. 2

VC-3 FRAMES CONTAINED IN AU-4

$$(C-3) + (VC-3 \text{ POH}) + (TU-3 \text{ POINTER}) = VC-4$$

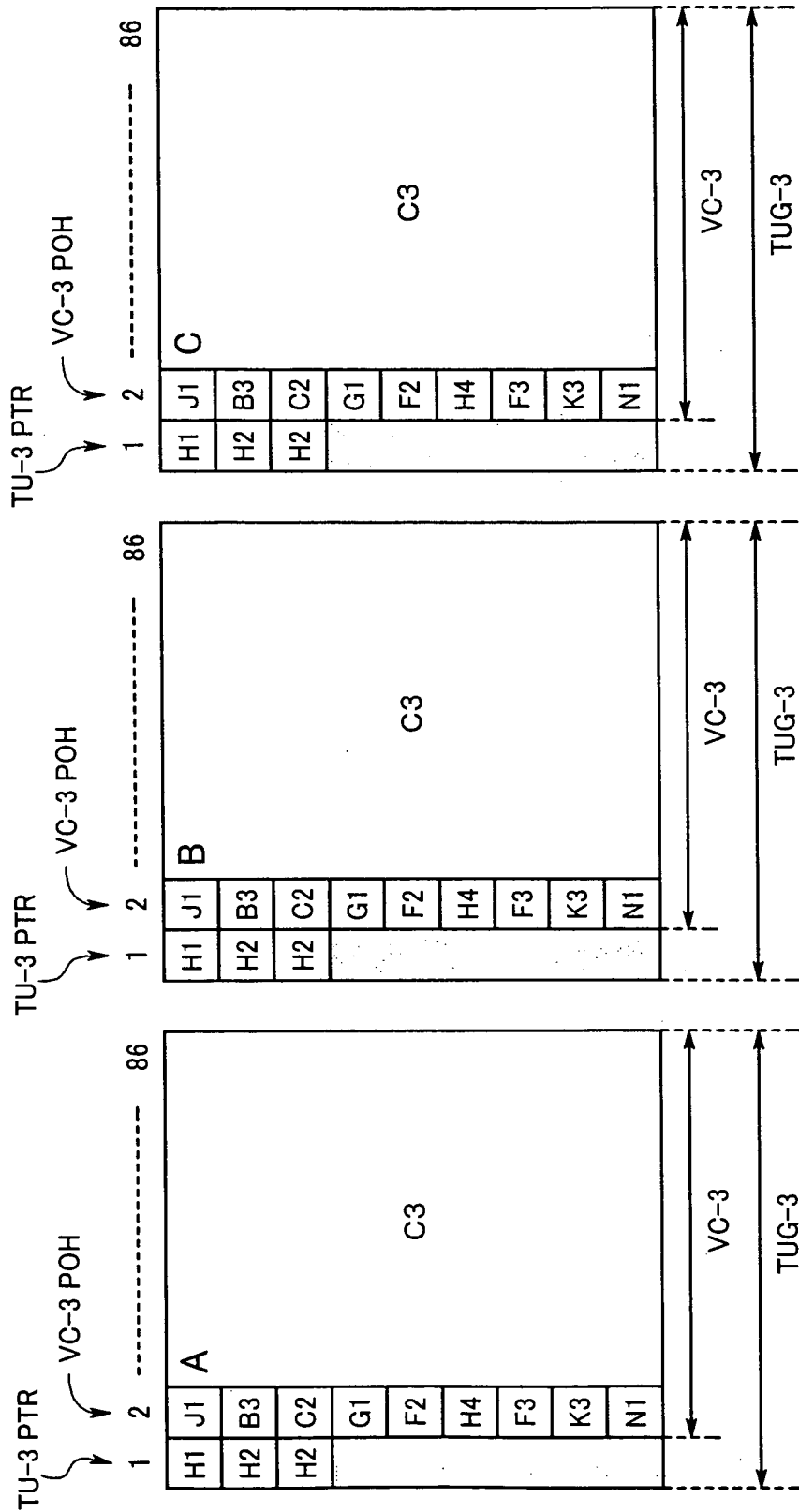
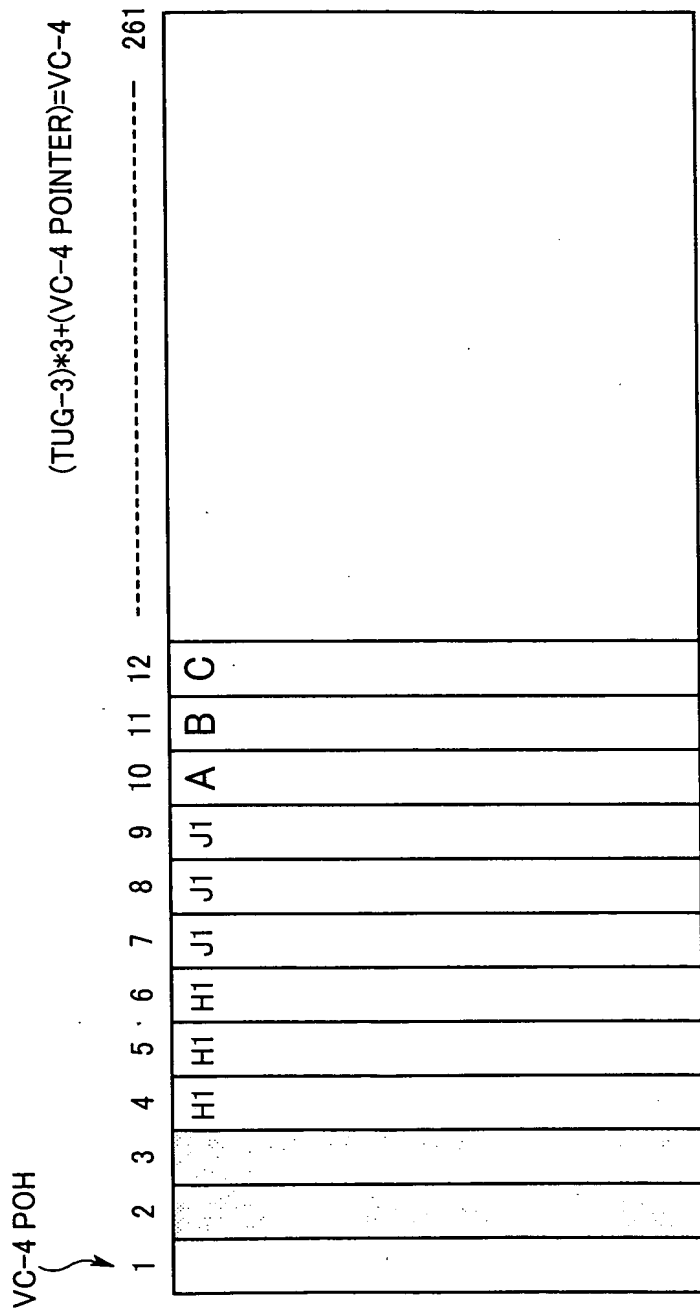


FIG. 4

VC-4 FRAME CARRYING THREE VC-3 FRAMES TO FORM AU-4



STUFF COLUMNS

FIG. 5

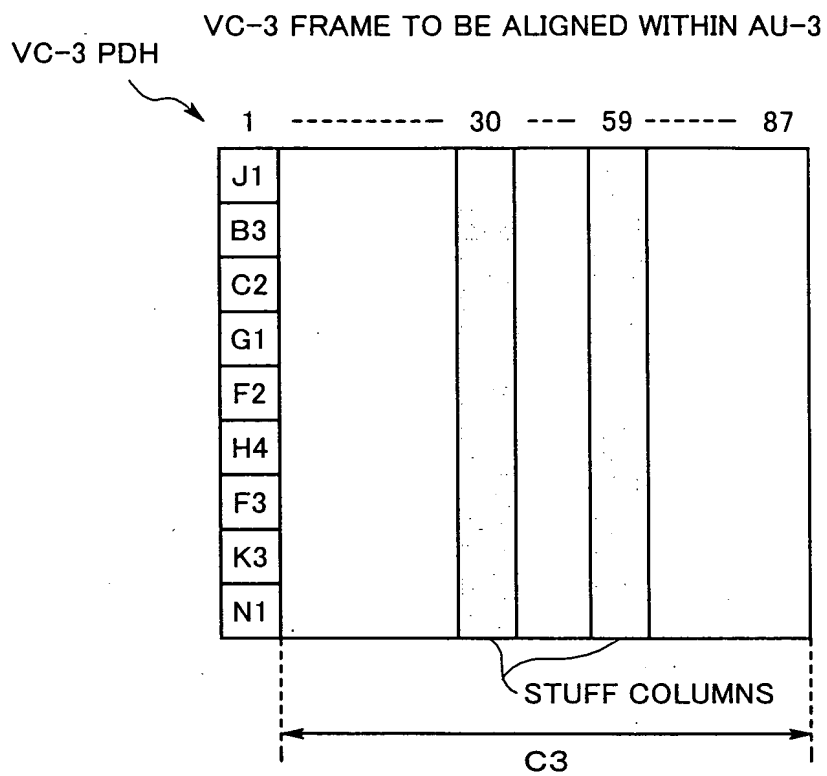


FIG. 6

09753350 423900

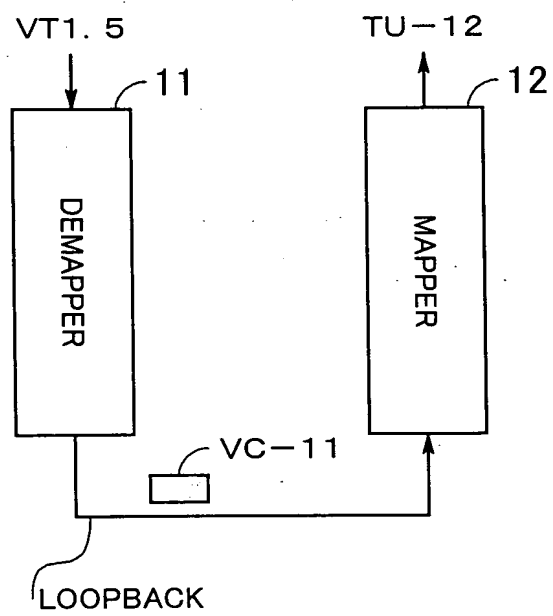


FIG. 7

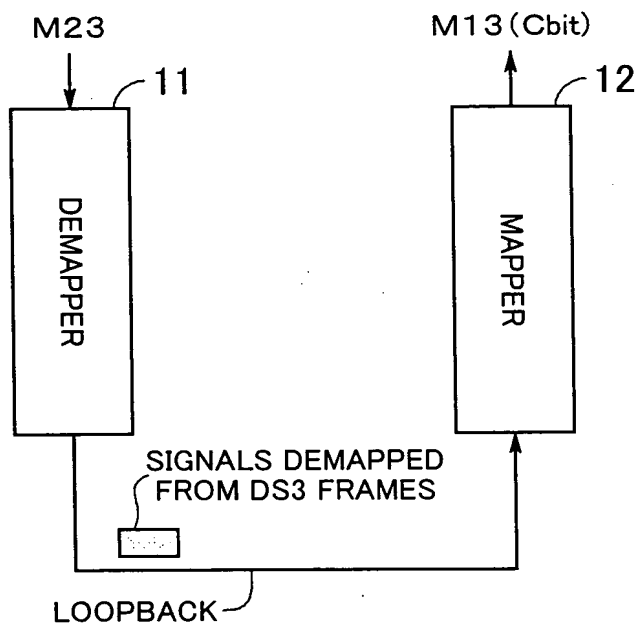


FIG. 9

09/23/2004 12:00:00

09/23/99 11:23:00

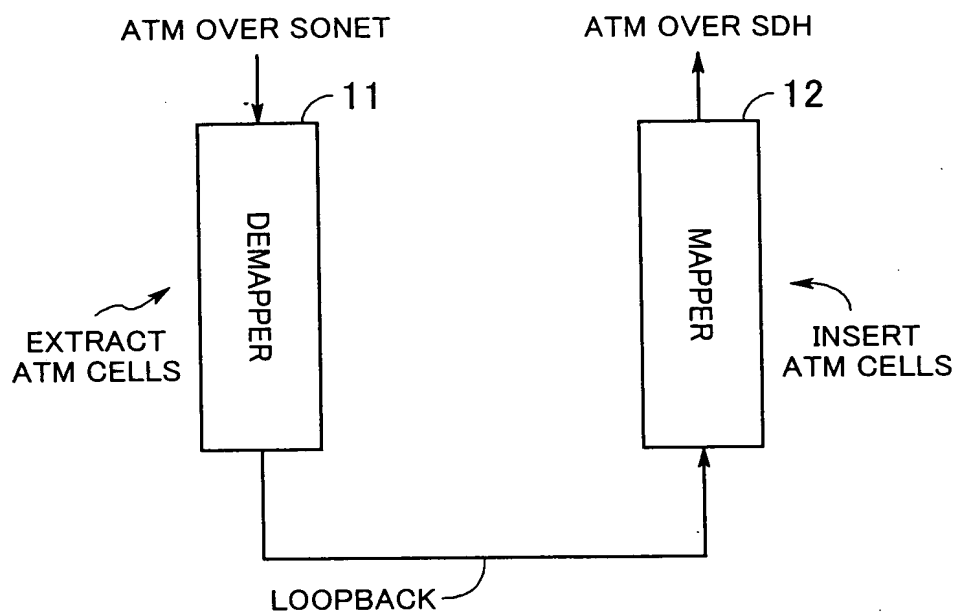


FIG. 10

09/23/2004 11:23:00

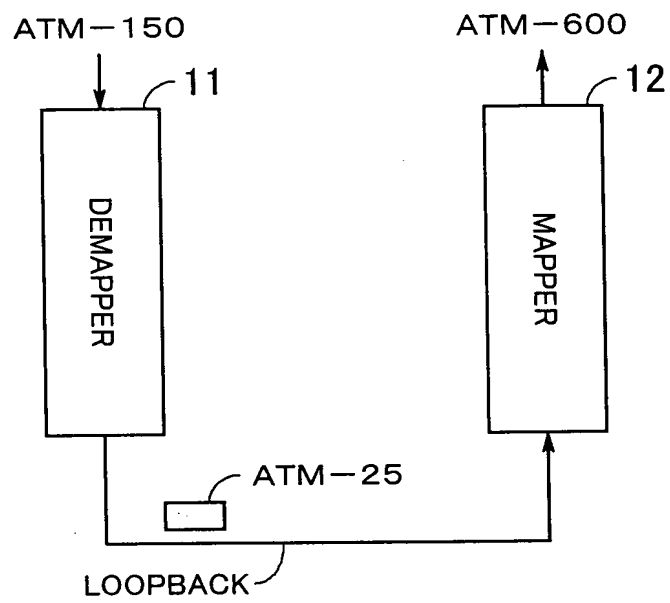


FIG. 11

09:53:30.42900

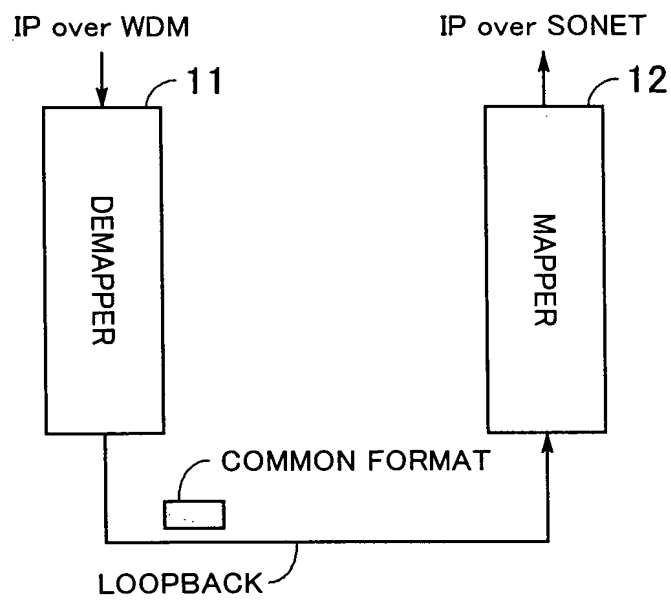


FIG. 12

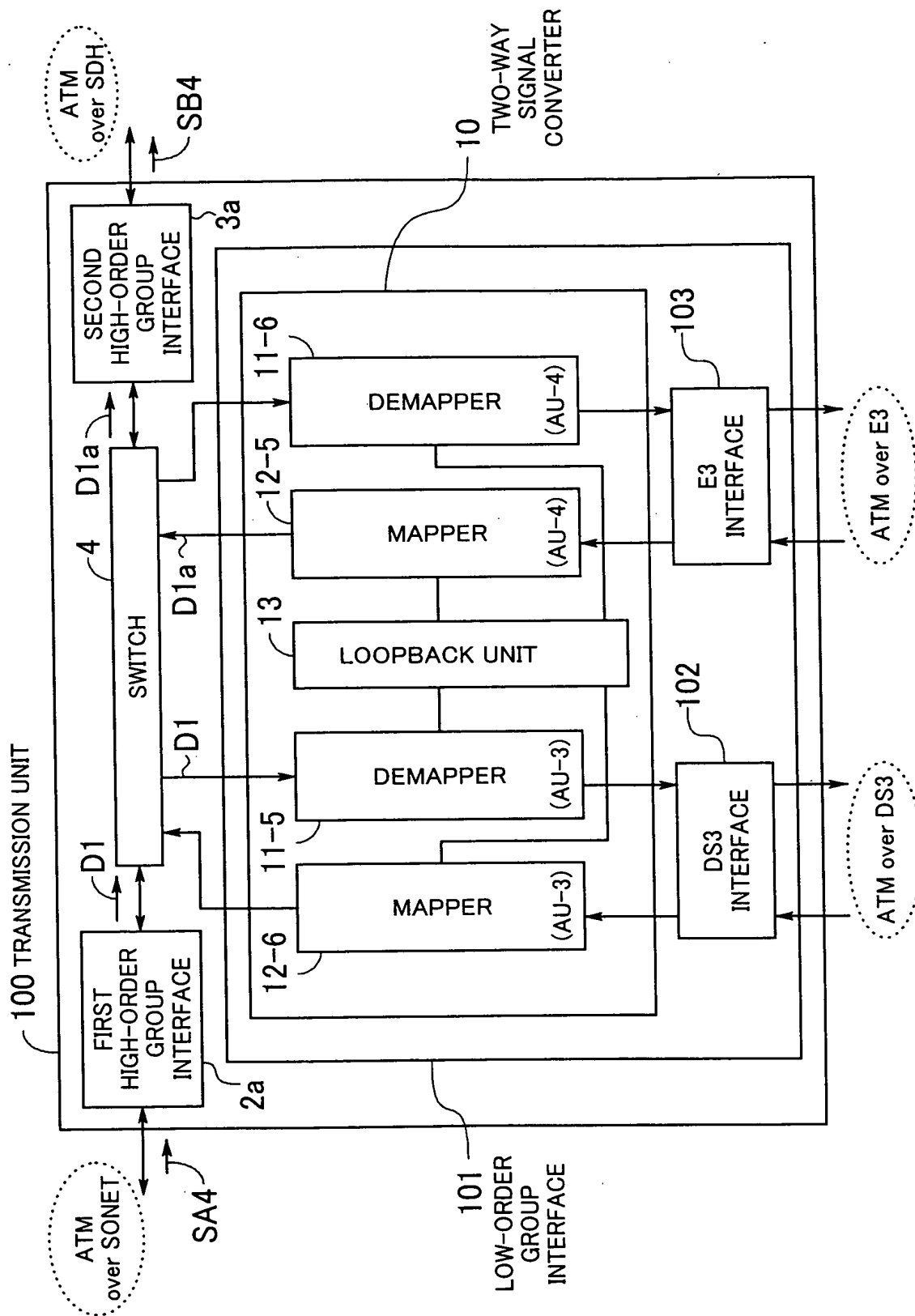


FIG. 13

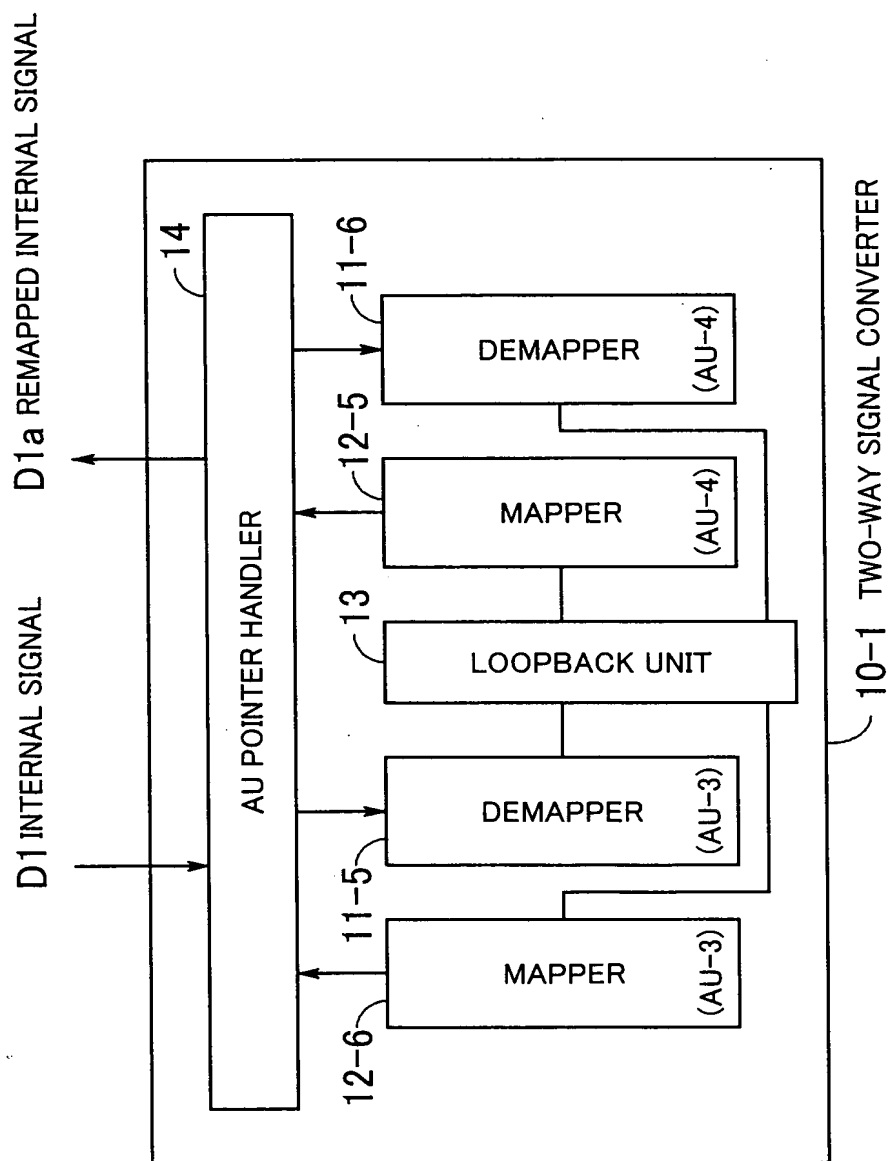


FIG. 14

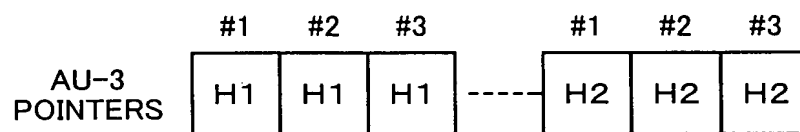


FIG. 15

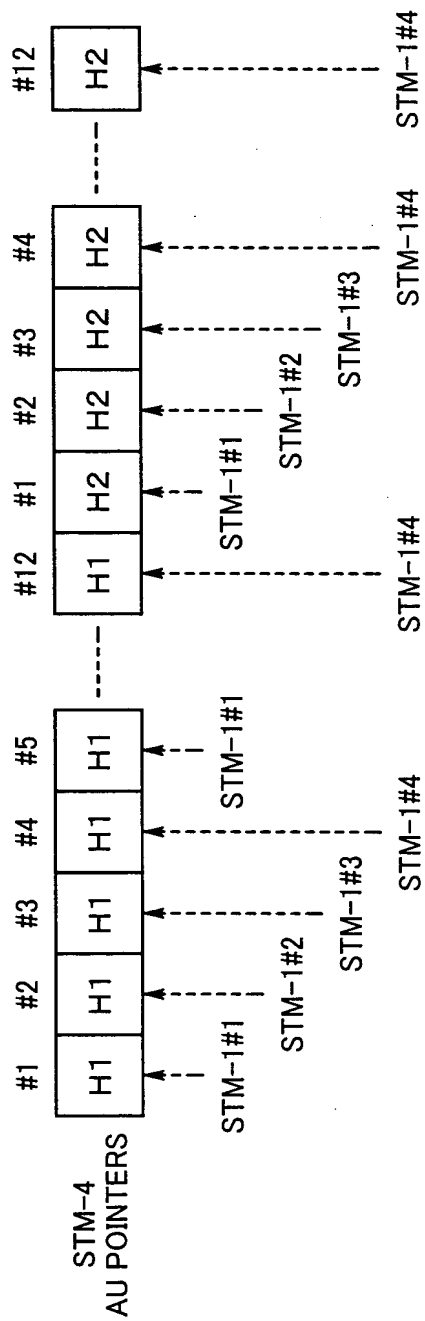


FIG. 17

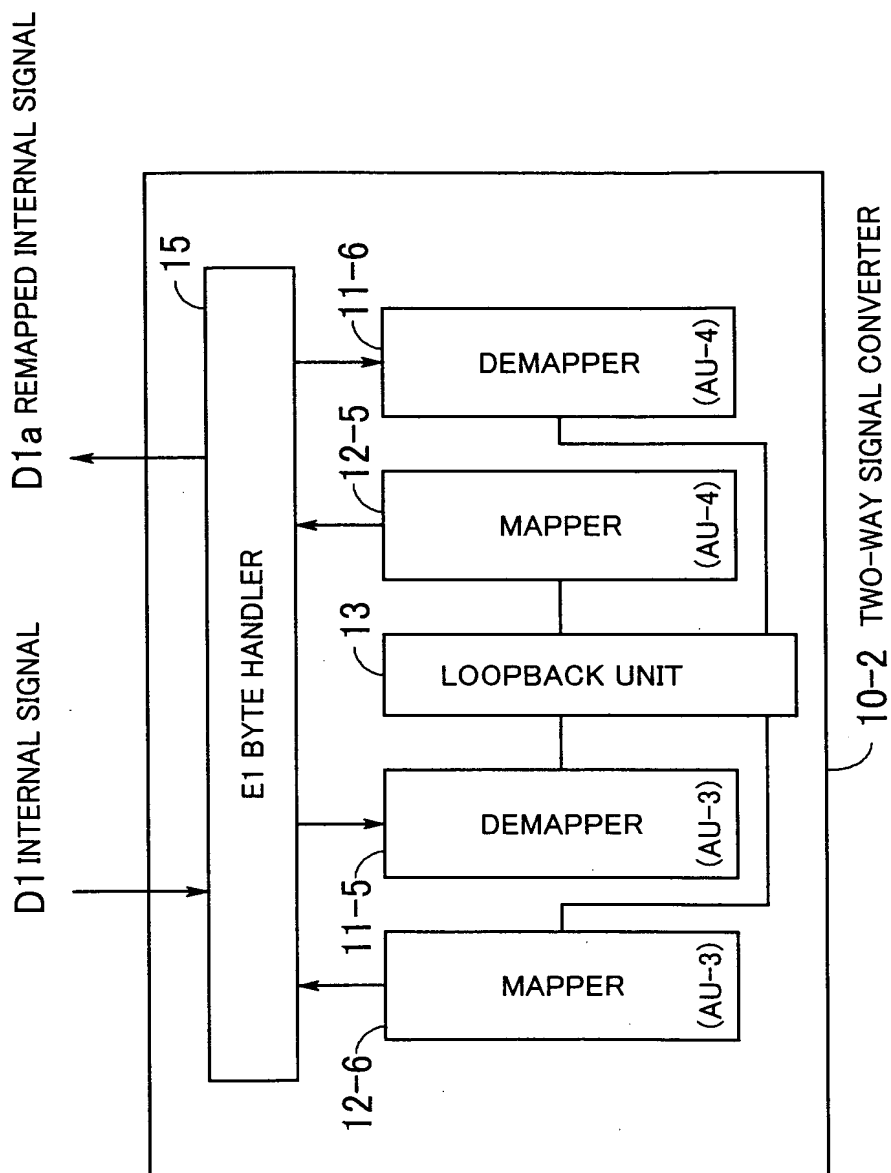


FIG. 18

STM-4 FRAME OVERHEAD FORMAT USED INSIDE THE UNIT

| #1 | #2 | #3 | #12 | #1 | #2 | #3 | #12 | #1 | #2 | #3 | #12 |
|----|----|----|-----|----|----|----|-----|----|----|----|-----|
| A1 | A1 | A1 | A1 | A2 | A2 | A2 | A2 | — | — | — | — |
| B1 | — | — | — | E1 | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — |
| H1 | H1 | H1 | H1 | H2 | H2 | H2 | H2 | H3 | H3 | H3 | H3 |
| — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — |
| — | — | — | — | — | — | — | — | — | — | — | — |

— :ALL 0

FIG. 19

| BITS | DEFINITION | STATE |
|------|--------------------|-----------------|
| 1, 2 | UNUSED | 0 |
| 3 | AU-4-16c (STS-48c) | 1: CONCATENATED |
| 4 | AU-4-4c (STS-12c) | 1: CONCATENATED |
| 5 | AU-4(STS-3c) #4 | 1: CONCATENATED |
| 6 | AU-4(STS-3c) #3 | 1: CONCATENATED |
| 7 | AU-4(STS-3c) #2 | 1: CONCATENATED |
| 8 | AU-4(STS-3c) #1 | 1: CONCATENATED |

FIG. 20

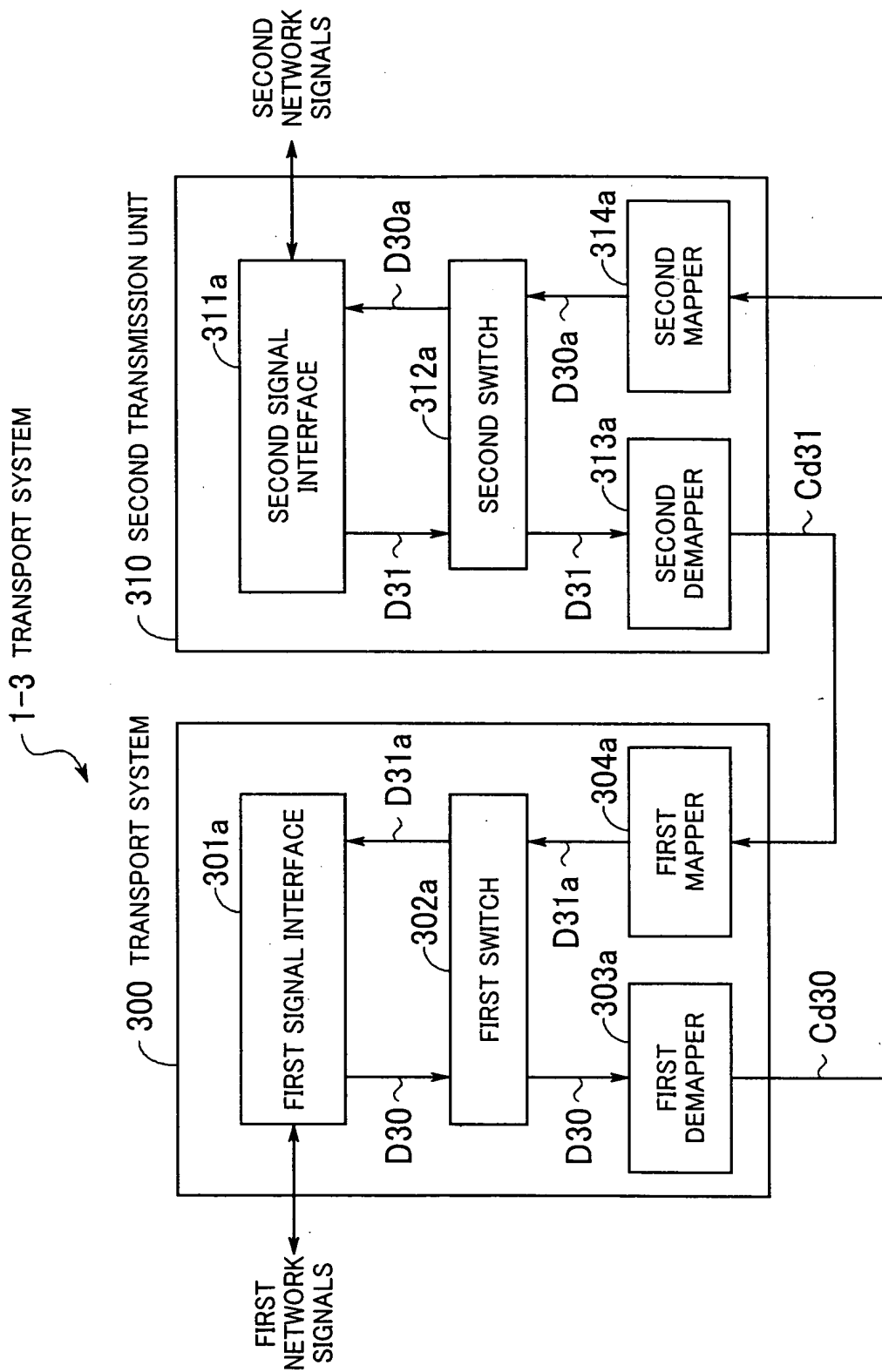


FIG. 22

```
graph TD; START([START]) --> S1[S1: PRODUCE LOWER-LEVEL SIGNALS THROUGH DOWNWARD CONVERSION]; S1 --> S2[S2: LOOP BACK PRODUCED LOWER-LEVEL SIGNALS]; S2 --> S3[S3: PRODUCE HIGHER-LEVEL SIGNALS THROUGH UPWARD CONVERSION]; S3 --> END([END]);
```

The flowchart illustrates the process flow for the signal processing method. It begins with a START terminal, followed by step S1: PRODUCE LOWER-LEVEL SIGNALS THROUGH DOWNWARD CONVERSION. This leads to step S2: LOOP BACK PRODUCED LOWER-LEVEL SIGNALS, which then leads to step S3: PRODUCE HIGHER-LEVEL SIGNALS THROUGH UPWARD CONVERSION. The process concludes at an END terminal.

FIG. 23

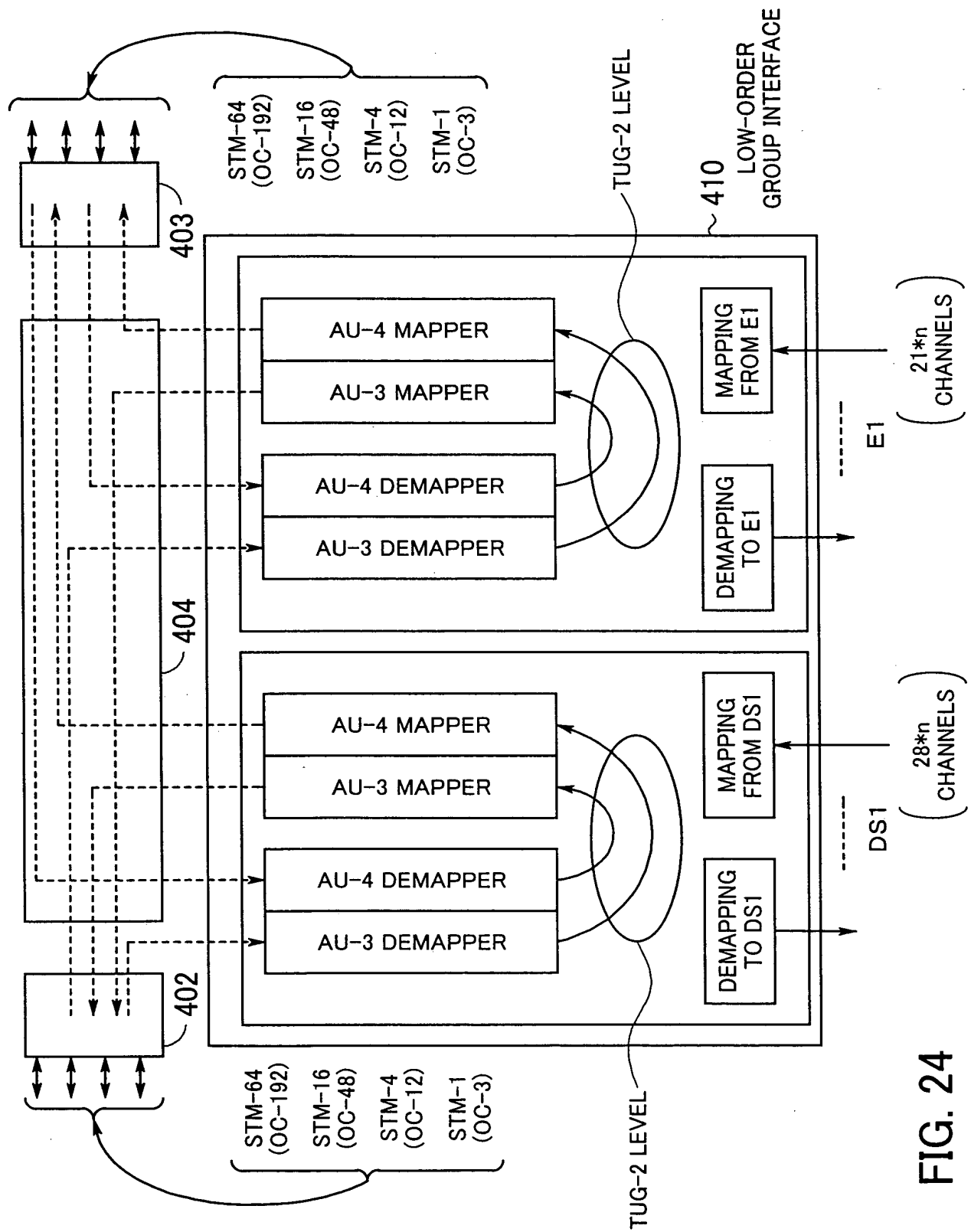


FIG. 24

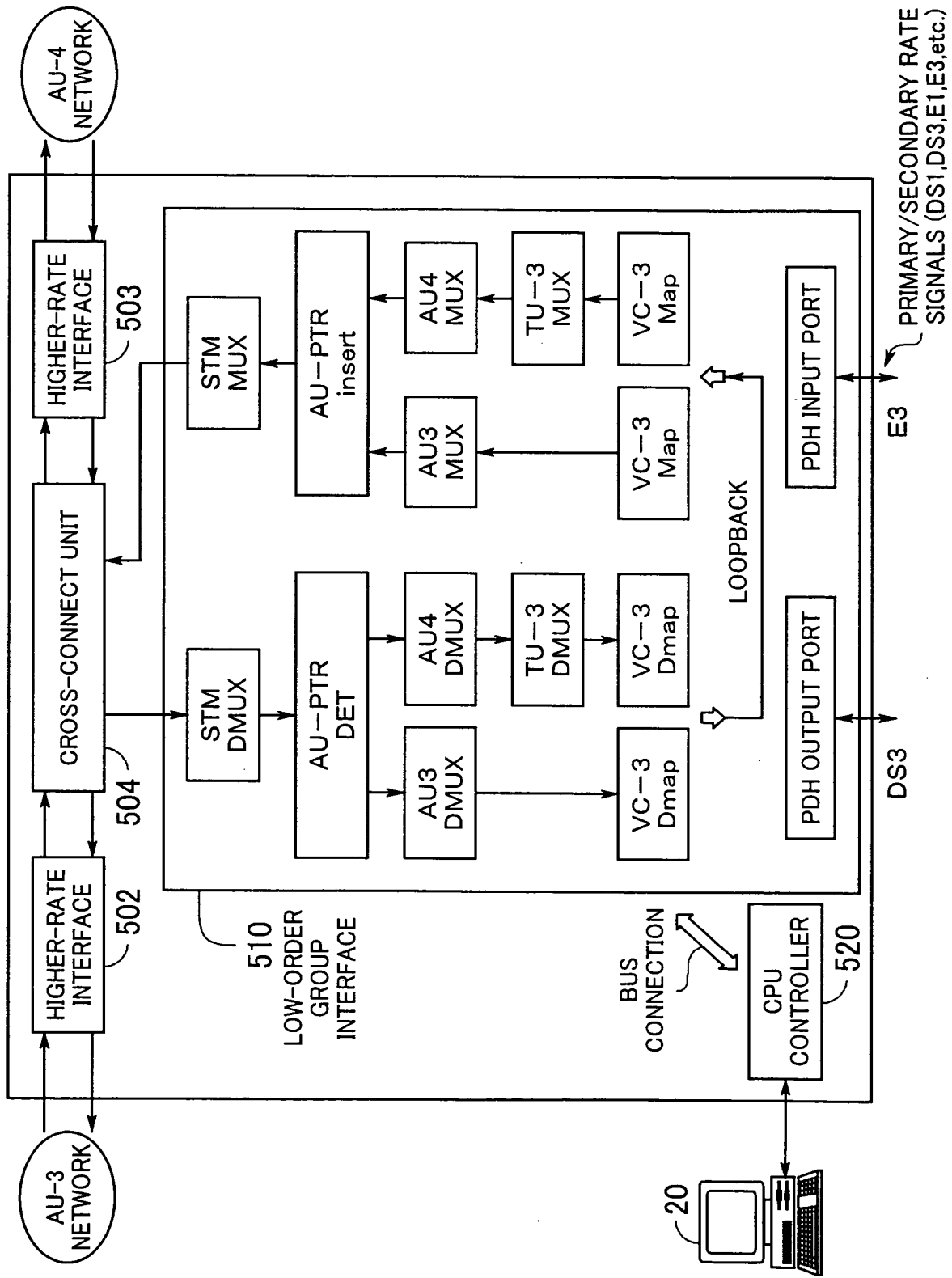


FIG. 25

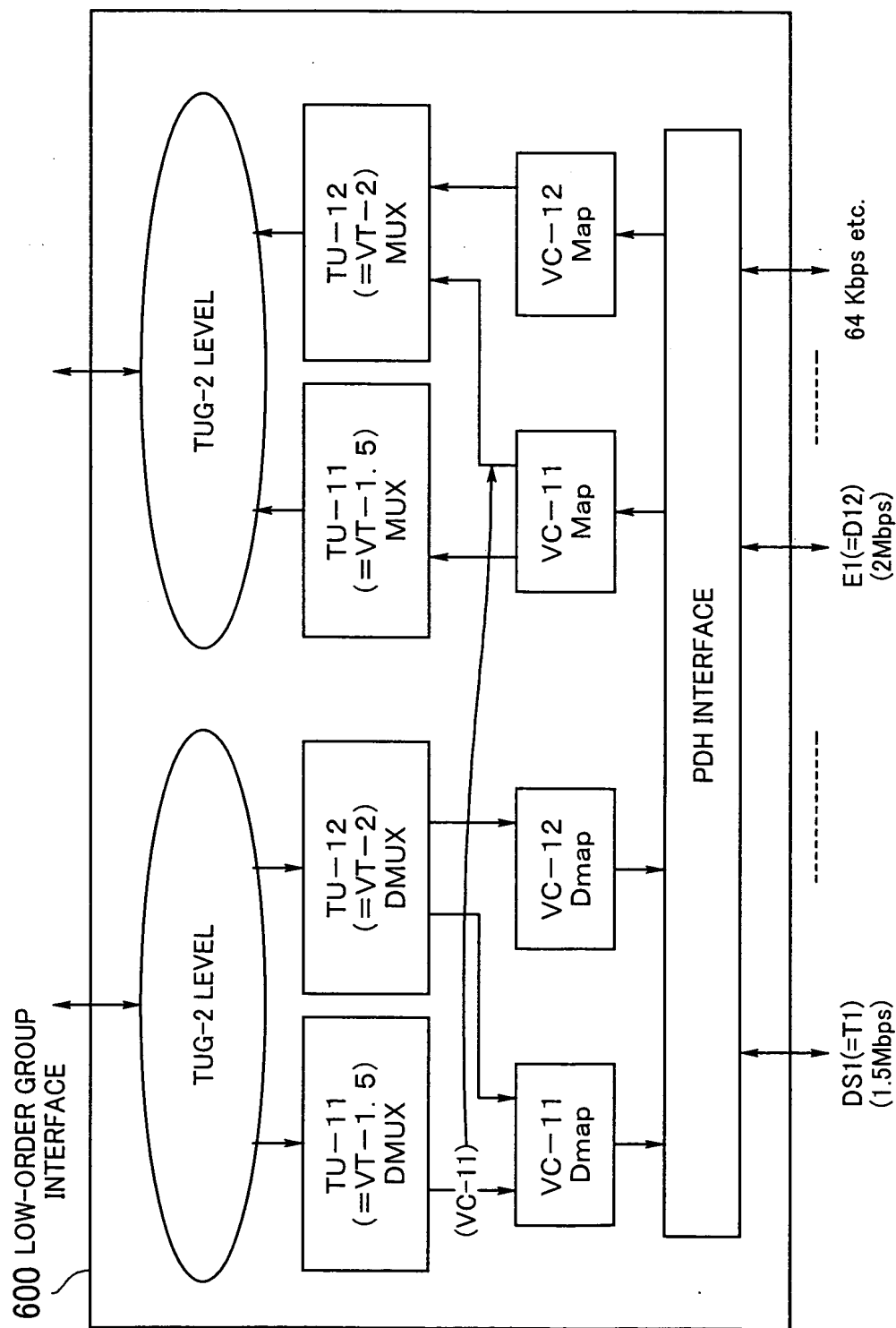


FIG. 26

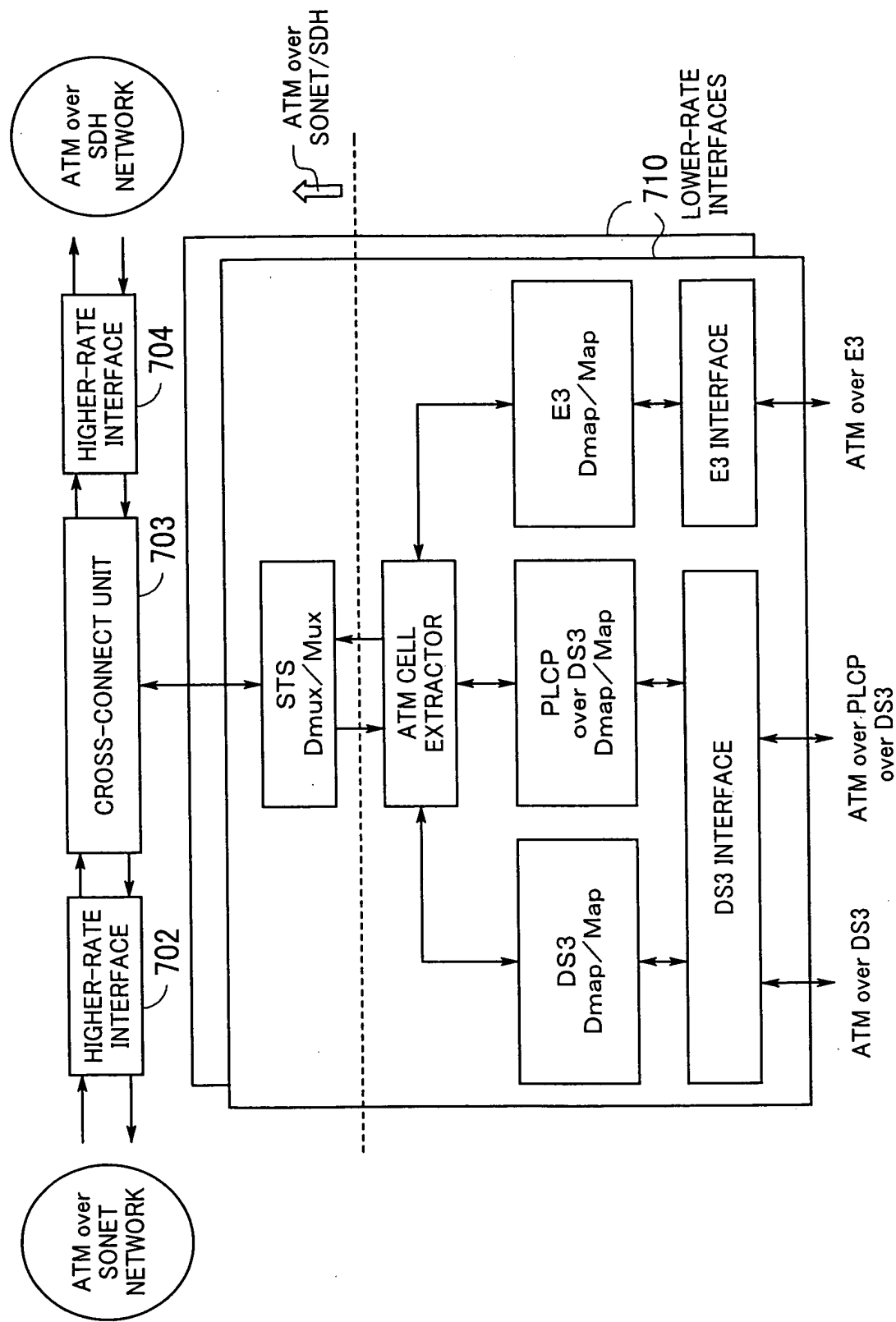


FIG. 27

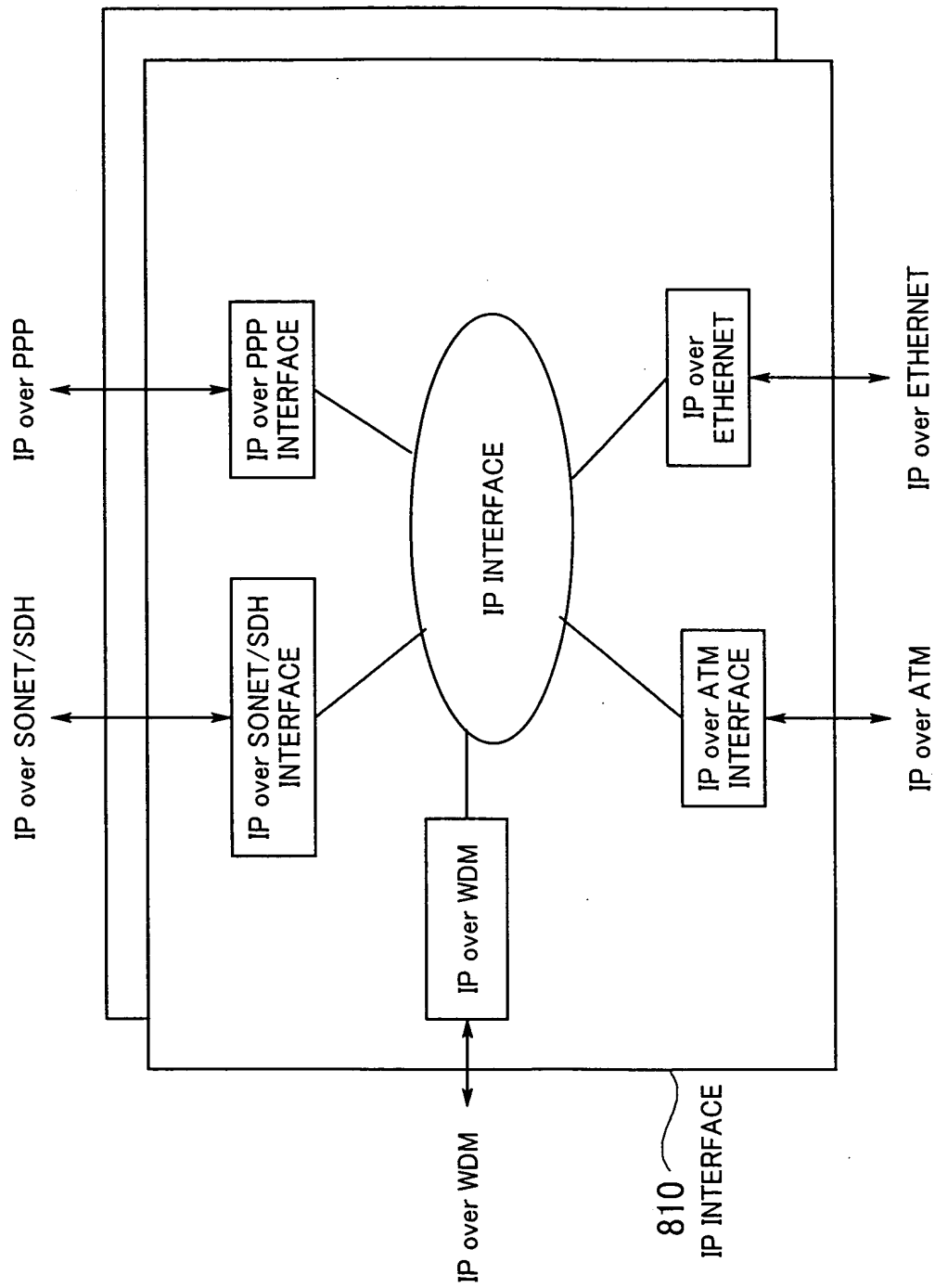


FIG. 28